Q1:circle

```
#include<stdio.h>
#define PI 3.14159
int main(){
        float r,a,circ;
        printf("enter the radius of a circle:\n");
        scanf("%f",&r);
   a = PI*r*r;
   circ = 2*PI*r;
        printf("area of a circle is: %f\n",a);
        printf("circ of a circle is: %f\n",circ);
        return 0;
}
```

Q2: odd even

```
#include<stdio.h>
int main(){
   int a;
   printf("enter two number");
   scanf("%d",&a);
   if(a%2==0)
   printf("the number is even");
   else()
   printf("the number is odd");
}
```

Q3:prime or not

```
#include <stdio.h>

int main() {

  int n, i, flag = 0;
  printf("Enter a positive integer: ");
  scanf("%d", &n);

  // 0 and 1 are not prime numbers
  // change flag to 1 for non-prime number
```

```
 if (n == 0 || n == 1)
  flag = 1;

 for (i = 2; i <= n / 2; ++i) {

  // if n is divisible by i, then n is not prime
  // change flag to 1 for non-prime number
  if (n % i == 0) {
   flag = 1;
   break;
  }
 }

 // flag is 0 for prime numbers
 if (flag == 0)
  printf("%d is a prime number.", n);
 else
  printf("%d is not a prime number.", n);

 return 0;
}
```

Q4 leap year or not

```
#include <stdio.h>
int main() {
   int year;
   printf("Enter a year: ");
   scanf("%d", &year);

   // leap year if perfectly divisible by 400
   if (year % 400 == 0) {
      printf("%d is a leap year.", year);
   }
   // not a leap year if divisible by 100
   // but not divisible by 400
   else if (year % 100 == 0) {
      printf("%d is not a leap year.", year);
   }
   // leap year if not divisible by 100
   // but divisible by 4
   else if (year % 4 == 0) {
```

```
        printf("%d is a leap year.", year);
    }
    // all other years are not leap years
    else {
        printf("%d is not a leap year.", year);
    }

    return 0;
}
```

Q5: 3 no is greater

```
int main()
{
    int A, B, C;

    printf("Enter the numbers A, B and C: ");
    scanf("%d %d %d", &A, &B, &C);

    // finding max using compound expressions
    if (A >= B && A >= C)
        printf("%d is the largest number.", A);

    else if (B >= A && B >= C)
        printf("%d is the largest number.", B);

    else
        printf("%d is the largest number.", C);

    return 0;
}
```

Q6: temperature

```
#include <stdio.h>


int main()
{
    float celsius, fahrenheit;


    /* Input temperature in celsius */
    printf("Enter temperature in Celsius: ");
    scanf("%f", &celsius);

    /* celsius to fahrenheit conversion formula */
    fahrenheit = (celsius * 9 / 5) + 32;
```

```
    printf("%.2f Celsius = %.2f Fahrenheit", celsius, fahrenheit);

    return 0;
}
```

Q7 menu driven calculator

```
#include <stdio.h>
void main() {
  int num1,num2,opt;
  printf("Enter the first Integer :");
  scanf("%d",&num1);
  printf("Enter the second Integer :");
  scanf("%d",&num2);

    printf("\nInput your option :\n");
    printf("1-Addition.\n2-Substraction.\n3-Multiplication.\n4-Division.\n5-
Exit.\n");
    scanf("%d",&opt);
    switch(opt) {
      case 1:
        printf("The Addition of  %d and %d is: %d\n",num1,num2,num1+num2);
        break;

      case 2:
        printf("The Substraction of %d  and %d is: %d\n",num1,num2,num1-num2);
        break;

      case 3:
        printf("The Multiplication of %d  and %d is:
%d\n",num1,num2,num1*num2);
        break;

      case 4:
        if(num2==0) {
          printf("The second integer is zero. Devide by zero.\n");
        } else {
          printf("The Division of %d  and %d is : %d\n",num1,num2,num1/num2);
        }
        break;

      case 5:
```

```
        break;

      default:
        printf("Input correct option\n");
        break;
    }
}
```

Q8 subject marks

```
#include <stdio.h>
int main() {
    float subject1, subject2, subject3, percentage, average;
    char choice;
 printf("Enter marks for Subject 1: ");
    scanf("%f", &subject1);
    printf("Enter marks for Subject 2: ");
    scanf("%f", &subject2);
    printf("Enter marks for Subject 3: ");
    scanf("%f", &subject3);
    percentage = (subject1 + subject2 + subject3) / 3.0;
    average = (subject1 + subject2 + subject3) / 3.0;
    printf("\nChoose an option:\n");
    printf("1. Percentage\n");
    printf("2. Average\n");
    printf("3. Result\n");
    printf("Enter your choice (1/2/3): ");
    scanf(" %c", &choice);
switch (choice) {
    case '1':
    printf("Percentage: %.2f%%\n", percentage);
    break;
case '2':
    printf("Average: %.2f\n", average);
    break;
    case '3':
    if (percentage >= 40.0) {
    printf("Result: Pass\n");
    } else {
    printf("Result: Fail\n");
    }
    break;
    default:
    printf("Invalid choice!\n");
    }

    return 0;
}
```

Q9 circle using function

```c
#include <stdio.h>
// User defined function to calculate circle's area
float getCircleArea(float radius){

   const float PI = 3.14;
   float area;

   // Calculate the area
   area = PI * radius * radius;

   return area;  // Return the area

}
int main(){

   // Declare the variables
   float radius, circleArea;

   printf("Enter the Radius of the Circle: ");
   scanf("%f", &radius);

   // call the function
   circleArea = getCircleArea(radius);

   // Print the result
   printf("The Area of the Circle is: %f", circleArea);

   return 0;
}
```

Q10 area of square and rectangle

```c
#include <stdio.h>
```

```c
int main() {
float length, width, area,side;
// area of rectangle
printf("Enter the length of the rectangle: ");
scanf("%f", &length);
printf("Enter the width of the rectangle: ");
scanf("%f", &width);
area = length * width;
printf("The area of the rectangle is: %f\n", area);
// area of square
printf("Enter the length of a side");
scanf("%f",&side);
area = side * side;
printf("area of square %f",area);
return 0 ;
}
```

Q11 1-D array

```c
#include <stdio.h>
int main(){
int a[5];
for(int i=0;i<=4;i++){
int irene= i+1;
printf("\nEnter Number for %d array : ",irene);
scanf("%d", &a[i]);
}
for(int b=0;b<=4;b++){
printf("%d ",a[b]);
}
return 0;
}
```

Q12 specified element in array

```c
#include<stdio.h>
```

```c
int main(){
    int a,i;
int arr[10]={2,2,3,4,2,4,4,6,8,7};
printf("Array Elemensts are : ");
for(i= 0;i<=9;i++){
printf("%d ", arr[i]);
}
printf("\nEnter the element to search in an array: ");
scanf("%d",&a);
for(i=0;i<10; i++){
if(arr[i]==a)
    printf("\nElement Found");
else
    printf("\nElement not found");
}
return 0;
}
```

Q 13 int & sort them in ascending & descending order using loops.

Ascending

```c
#include <stdio.h>
int main(){
int a[5];
for(int i=0;i<=4;i++){
int j= i+1;
printf("\nEnter Number for %d array : ",j);
scanf("%d", &a[i]);
}
for(int b=0;b<=4;b++){
printf("%d ",a[b]);
}
return 0;
}
```

Descending

```c
#include <stdio.h>
int main(){
int a[5];
for(int i=0;i<=4;i++){
int j= i+1;
printf("\nEnter Number for %d array : ",j);
scanf("%d", &a[i]);
}
printf("\nNumbers in Descending Order is : ");
for(int b=4;b>=0;b--){
printf("%d ",a[b]);
}
```

```
return 0;
}
```

Q 14 sum of 2d array

```
#include <stdio.h>
int main(){
int i,j,r1,c1,a[10] [10],b[10] [10];
printf("Enter Order of Matrix A & B up to 10 X 10:");
scanf("%d %d", &r1,&c1);
printf("Enter Elements of Matrix of A:\n");
for(i=0;i<r1;i++){
for(j=0;j<c1;j++)
scanf("%d", &a[i][j]);
}
printf("Enter Elements of Matrix of B:\n");
for(i=0;i<r1;i++){
for(j=0;j<c1;j++)
scanf("%d", &b[i][j]);
}
printf("\nMatrix Addition \n");
for(i=0;i<r1;i++){
for(j=0;j<c1;j++)
printf("%5d",a[i][j]+b[i][j]);
printf("\n");
}
printf("\nMatrix Subtraction \n");
for (i=0;i<r1;i++){
for(j=0;j<c1;j++)
printf("%5d",a[i][j]-b[i][j]);
printf("\n");
}
return 0;
}
```

Q15 3 by 3 matrix and perform matrix multi

```
#include<Stdio.h>
int main(){
```

```
int i,j,k,r1,c1,a[10] [10],b[10] [10],c[10][10];

printf("Enter Order of Matrix A & B up to 10 x 10:");
scanf("%d %d", &r1, &c1);
printf("Enter Elements of Matrix of As \n");
for(i=0;i<r1;i++){
for(j=0;j<c1;j++)
scanf("%d", &a[i][j]);
}
printf("Enter Elements of Matrix of B:\n");
for(i=0;i<r1;i++){
    for(j=0;j<c1;j++)
    scanf("%d", &b[i][j]);c[i][j]=0;
} printf("\nMatrix Multiplication \n");
for(i=0; i<r1; i++){
    for(j=0; j<c1; j++){
c[i][j] = 0;
for(k=0; k<r1; k++){
    c[i][j] = c[i][j] + a[i][k] * b[k][j];

}

}

}

for(i=0;i<r1;i++){

    for(j=0;j<r1;j++){
    printf("%5d",c[i][j]);
}

printf("\n");

}

return 0;

}
```

Q16 transpose of matrix

```
#include<stdio.h>
int main(){
    int m, n;
    printf("Enter the number of rows: ");
```

```
    scanf("%d", &m);
    printf("Enter the number of columns: ");
    scanf("%d", &n);
    int matrix[10^5][10^5];
    printf("Enter the elements of the matrix:\n");
    for(int i=0; i<m; i++){
        for(int j=0; j<n; j++){
            scanf("%d", &matrix[i][j]);
        }
    }
    for(int i=0; i<m; i++){
        for(int j=0; j<n; j++){
            int temp = matrix[i][j];
            matrix[i][j] = matrix[j][i];
            matrix[j][i] = temp;
        }
    }
    printf("The transposed matrix is:\n");
    for(int i=0; i<n; i++){
        for(int j=0; j<m; j++){
            printf("%d ", matrix[i][j]);
        }
        printf("\n");
    }
    return 0;
}
```

Q18 name using ascii code

```
#include <stdio.h>
#include<string.h>
int main(){
static char name[20];
int i,l;
printf("Emter your name: ");
scanf("%s", name);
l=strlen(name);
printf("Your name is %s &", name);
```

```
printf("It contains %d characters.",l);

printf("\nName & Its ASCII Equivalent.\n");

printf("==== = === ===== ==========\n");

for(i=0;i<l;i++){

printf("\n %c\t\t%d", name[i],name[i]);

}

return 0;
}
```

Q19 program to enter the two string

```
#include <stdio.h>

int main() {
    char sr[20], tar[20];
int diff = 0, i;
printf("Enter String(1): ");
scanf("%s", sr);
printf("Enter String(2): ");
scanf("%s", tar);
for (i = 0; sr[i] != '\0' && tar[i] != '\0'; i++) {
if (sr[i] == tar[i])
    continue;
else {
printf("%c %c\n", sr[i], tar[i]);
diff++;
}
}
if (sr[i] == tar[i]){
    printf("%c %c\n", sr[i], tar[i]);
diff++;
}
if (diff == 0)
printf("\nThe two strings are identical.\n");
else
    printf("\nThe two strings are different at %d places.\n", diff);
return 0;
}
```

Q20 program to find first occurrence of given char.using strch() func

```c
#include <stdio.h>
#include <string.h>
int main() {
char string[30], ch, *chp;
printf("Enter Text Below: ");
gets(string);
printf("Character to find: ");
ch = getchar();
chp = strchr(string, ch);
if (chp != NULL)
    printf("Character '%c' found in string.\n", ch);
else
    printf("Character '%c' not found in string.\n", ch);
return 0;
}
```